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SNOW SURVEYS AND IRRIGATION WATER FORECASTS

FOR

RIO GRANDE BASIN

May 1, 1938

The following data pertaining to snow surveys and irrigation water-supply forecasts are provided by Bureau of Agricultural Engineering of the U. S. Department of Agriculture, in cooperation with State Departments, other Federal bureaus and local organizations. The snow measurements are made principally by field personnel of the U. S. Forest Service and Colorado State Engineer. This work is otherwise conducted cooperatively with the State Engineers of Colorado and New Mexico, U. S. Weather Bureau, and Colorado Agricultural Experiment Station, and various municipalities, irrigation associations and others.

In the San Luis Valley in Colorado the precipitation, average of six stations 6,000 feet or more in elevation, for April, was 0.9 inch which was 0.1 inch below normal. For the October-April period the average accumulated rain fall was 3.8 inches which was 0.2 inch above normal. In the northern part of New Mexico the precipitation on the watershed of the Rio Grande averaged 1.0 inch for the month of April which was 0.2 inch below normal. For the period October to April inclusive it was 6.6 inches or 0.9 inch below normal. For the Pecos, San Juan and Gila watersheds the April precipitation was 0.3, 0.6 and 0.2 inch respectively and from October to April, inclusive the accumulated average was 4.6, 5.9, and 6.2 inches. For this period the precipitation was 0.6 inch below normal for the Pecos; 0.4 inch above normal for the San Juan and 0.4 inch above normal for the Gila.

During the month of April the water content of the snow cover on the watershed of the Rio Grande in Colorado has been reduced 7.0 inches or about 40 percent based on the average of six snow courses. On May 1 the average water content of the snow on this watershed was 17.5 inches while for these same courses last year at this time the average water content was 20.0 inches indicating about 12 percent less water held in snow storage. The precipitation in the San Luis Valley during April was slightly below normal, and, because of melting and evaporation the snow cover has lost considerably in water content over the month. The runoff for the Rio Grande drainage in Colorado this year will be less than it was last year.

Reservoir storage in the San Luis Valley in Colorado was 26 percent more than it was on May 1, 1937. Storage in the Elephant Butte, El Vado, and Caballo reservoirs on the Rio Grande in New Mexico shows a total of 1,267,000 acre-feet or about 40 percent more than for May 1st last year.

Soil moisture conditions over the farming area in the San Luis Valley is reported to be excellent. For the Rio Grande Valley in New Mexico, the soil moisture is reported to be normal.

RIO GRANDE

Summary of Federal And State Cooperative Snow Surveys

Bureau of Agricultural Engineering, U. S. Dept. Agri.; Forest Service; Colo. Agri. Expt. Station
Issued May 10, 1938. Colo. Expt. Station, Fort Collins, Colo.

No.	Main Drainage and Snow Course	Local Drainage	State	Locality	Description	Elev.	National Forest	Snow Course Measurements					
								Av. Snow Depth	1936	1937	1938	1937	1938
								In.	In.	In.	In.	In.	In.
RIO GRANDE													
26	Wolf Creek Pass	South Fork	Colo.	Wolf Cr. Pass	4-37N-2E	10000	Rio Grande	36.0	74.5	68.4	17.7	34.4	33.7
27	Upper Rio Grande	Rio Grande	"	Rio Grande Res.	13-40N-4W	9350	"	0.0	0.0	0.0	0.0	0.0	0.0
28	Cumbres Pass*	Los Pinos R.	"	Cumbres Pass	17-32N-5E	10000	"	20.3	53.8	44.3	11.7	32.5	28.0
74	LaVeta Pass No. 2	San. Cristo Cr.	"	LaVeta Pass	22-28S-70W	9300	Off Forest	0.0#	2.7#	1.0	0.0#	1.0#	0.5
47	Silver Lakes	Alamosa R.	"	1mi. S. Silver L.	15-36N-5E	9600	Rio Grande	---	0.0	0.0	---	0.0	0.0
49	River Springs	Conejos R.	"	10mi. W. Mogote	25-33N-6E	9300	"	---	5.3	0.8	---	1.7	0.3

*On adjacent drainage

#Readings on original course.

Reservoir Storage in Acre-Feet, Rio Grande Drainage, as of May 1, for the Years 1929-1938 inclusive.
(Based on data gathered by the State Engineer of Colorado and the U. S. Bureau of Reclamation).

A - Percentage of capacity. B = Percentage of 10-year average. Units in thousands of acre-feet.

Reservoir	Capacity Ac-ft.	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	10 yr. Avg. Ac-ft.	A %	B %
		Ac-ft.	Ac-ft.	Ac-ft.	Ac-ft.	Ac-ft.	Ac-ft.	Ac-ft.	Ac-ft.	Ac-ft.	Ac-ft.	Ac-ft.	%	%
Rio Grande	45.8	8.5	34.0	5.7	2.7	15.3	4.9	0.3	23.6	16.2	17.5	12.9	38	136
Santa Maria	45.0	9.9	29.9	12.0	4.8	7.0	6.8	4.6	6.9	9.5	10.8	10.2	24	106
Sanchez	25.9	7.5	13.0	12.7	10.2	10.2	12.0	7.4	13.8	17.6	19.2	12.4	74	155
Terrace	17.7	4.5	7.0	1.0	1.9	0.6	1.4	1.3	6.4	4.5	9.6	3.8	54	252
Continental	26.7	2.3	6.7	0.9	0.0	6.5	2.6	0.8	3.3	0.5	4.0	2.8	15	143
Elephant Butte	2273.7	901.3*	1598.9*	1238.2*	1168.0*	1275.3*	1001.6*	488.0*	782.5	917.1	1099.0	1047.0	48	105
El Vado	226.0	---	---	---	---	---	---	---	---	---	148.6	---	66	---
Caballo	365.0	---	---	---	---	---	---	---	---	---	18.0	---	---	---

*Based on capacity of 2,407,100 Acre-Feet

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